

UNITED STATES PATENT AND TRADEMARK OFFICE
CERTIFICATE OF CORRECTION

PATENT NO. : 7,310,574 B2
APPLICATION NO. : 10/722375
DATED : December 18, 2007
INVENTOR(S) : Eusebio Di Cola et al.

Page 1 of 2

It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

Column 25

Lines 15-56,

“

”

start	Starts the state machine implemented in "cams_shft"
Stop	Stops the state machine implemented in "cams_shft" and brings it back to its initial state ready to start again.
mem_cam_changes1	Table of size1 items, containing the number-of-tooth values of the drive shaft phonic wheel where transitions occur on the cam signal during the drive shaft rotation corresponding to phase zero.
profile1	Indicates the expected value of the cam profile stored in <i>mem_cam_changes1</i> .
size1	Indicates the number of items stored in the <i>mem_cam_changes1</i> and <i>profile1</i> tables.
mem_cam_changes2	Table of size1 items, containing the number-of-tooth values of the drive shaft phonic wheel where transitions occur on the cam signal during the drive shaft rotation corresponding to phase one.
profile2	Indicates the expected value of the cam profile stored in <i>mem_cam_changes2</i> .
size2	Indicates the number of items stored in the <i>mem_cam_changes2</i> and <i>profile2</i> tables.
mem_cam_r	Table of size1 items, containing the number-of-tooth values of the drive shaft phonic wheel where transitions occur for the reconstructed cam signal.
Profiler	Indicates the expected value of the cam profile stored in <i>mem_cam_r</i> .
Sizer	Indicates the number of items stored in the <i>mem_cam_r</i> and <i>profiler1</i> tables.
Delta	Indicates the width of the interval around the time point when the system is expecting a tooth of the camshaft phonic wheel.
offset_out	Indicates the extent that the cam signal has to be shifted from the drive shaft phonic wheel signal.
a_ns	Indicates whether the shift has to occur in the forward or the backward direction.
cfg_phase	Indicates if the teeth counter of the drive shaft phonic wheel has to be shifted.
error_at	Indicates the number of the tooth where the last error occurred.
teeth_cnt	Indicates the drive shaft angular position as phonic wheel teeth counter from 1 to 2° (n tooth holes).
cam_phase	Indicates the motor phase.
lock_cam	Indicates that the motor operating phase is found.
state_out	Indicates the current state of the "cams_shft" state machine.
rec_out	Desired camshaft profile.

UNITED STATES PATENT AND TRADEMARK OFFICE
CERTIFICATE OF CORRECTION

PATENT NO. : 7,310,574 B2
APPLICATION NO. : 10/722375
DATED : December 18, 2007
INVENTOR(S) : Eusebio Di Cola et al.

Page 2 of 2

It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

should read as

start	Starts the state machine implemented in "cams_shft"
Stop	Stops the state machine implemented in "cams_shft" and brings it back to its initial state ready to start again.
mem_cam_changes1	Table of size1 items, containing the number-of-tooth values of the drive shaft phonic wheel where transitions occur on the cam signal during the drive shaft rotation corresponding to phase zero.
profile1	Indicates the expected value of the cam profile stored in <i>mem_cam_changes1</i> .
size1	Indicates the number of items stored in the <i>mem_cam_changes1</i> and <i>profile1</i> tables.
mem_cam_changes2	Table of size1 items, containing the number-of-tooth values of the drive shaft phonic wheel where transitions occur on the cam signal during the drive shaft rotation corresponding to phase one.
profile2	Indicates the expected value of the cam profile stored in <i>mem_cam_changes2</i> .
size2	Indicates the number of items stored in the <i>mem_cam_changes2</i> and <i>profile2</i> tables.
mem_cam_r	Table of size1 items, containing the number-of-tooth values of the drive shaft phonic wheel where transitions occur for the reconstructed cam signal.
Profiler	Indicates the expected value of the cam profile stored in <i>mem_cam_r</i> .
Sizer	Indicates the number of items stored in the <i>mem_cam_r</i> and <i>profiler1</i> tables.
Delta	Indicates the width of the interval around the time point when the system is expecting a tooth of the camshaft phonic wheel.
offset_out	Indicates the extent that the cam signal has to be shifted from the drive shaft phonic wheel signal.
a_ns	Indicates whether the shift has to occur in the forward or the backward direction.
cfg_phase	Indicates if the teeth counter of the drive shaft phonic wheel has to be shifted.

Signed and Sealed this

Sixteenth Day of June, 2009



JOHN DOLL
Acting Director of the United States Patent and Trademark Office